

ABSTRACT OF THE DISCLOSURE

A dynamic weight generator. The inventive generator includes a first memory
5 for storing a PN code; a second memory for storing a plurality of weights, the second
memory being coupled to the first memory whereby data output by the first memory is
used to address data stored in the second memory; and a correlator for multiplying an
input signal by data output by the second memory. In the illustrative embodiment, the
weights are finite impulse response filter correlation coefficients. The correlator
10 includes two multipliers. The first of the multipliers is coupled to a source of an in-
phase component of the input signal. The second of the multipliers is coupled to a source of a quadrature component of the input signal. The outputs of the multipliers
are summed. In the illustrative application, the input signal is a GPS signal. For this
application, the inventive teachings are implemented in a signal processing system
15 adapted to receive a GPS signal and provide in-phase and quadrature signals in response
thereto. The signal is filtered with a finite impulse response filter to provided weighted
signals. The weighted signals are processed to generate nulling and beamsteering
weights for the weighted signals. The weights may be used to equalize the received
signals. In a more specific implementation, the received signals are partitioned into
20 space frequency adaptive processing bands and space time adaptive processing is
performed within the SFAP bands.